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MEMORANDUM

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Date: February 11, 2010

SUBJECT: Inquiry - Mowry Pond 13 (Newark, CA; San Francisco Bay National Wildlife Refuge) Redwood City salt ponds 13: authorization of large hydraulic depositional fan?

Katerina.

Following my previous submittal (February 5, 2009) of supplemental aerial photographic evidence of fill and excavation in Redwood City salt ponds, I was informed by Carin High of Citizen's Committee to Complete the Refuge that she detected an anomalous large recent (circa 2007 and after) fill in Pond 13 (bittern pond; concentrated San Francisco Bay brine with most sodium chloride precipitated), Newark, which is still operated by Cargill Salt, to the best of my knowledge.

I inspected the most recent imagery of the site on Google Earth again, dated August 25, 2009. Saved images of the Pond 13 fill discharge site are attached below. The fills appear to be hydraulically deposited fans ("dredge mounds") of bay mud sediment. The discharge

point of the deposit appears as a small circular pit in the fan with drainage patterns downslope, a feature typical of subaerial hydraulic deposition of bay mud in diked baylands. Some surface scarification or striations suggest surface grading following hydraulic deposition. The fill appears to occupy roughly 1/15 of the total pond area.

I have carefully reviewed the scope and conditions of the regional permit for salt pond operations (19009S98), and can find no activities authorized that approximate the type, location, and magnitude of fill indicated in the aerial photography. Since this salt pond is not currently included within the South Bay Salt Pond Restoration Project, I assume any authorizations for fill discharges in Refuge-owned salt ponds do not currently apply here.

The Corps has jurisdiction over this and other salt ponds in San Francisco Bay. I have reviewed some key aspects of federal jurisdiction over this and other salt ponds in San Francisco Bay, summarized very briefly (not exhaustively) below:

- The bittern pond is a former concentrator pond that was long used for industrial purposes in interstate commerce (salt production) (Ver Planck 1958; 1953 map of SF Bay Pond system)
- Bittern brines produced in the South Bay solar salt industry were themselves were formerly sold in interstate commerce. (Ver Planck 1958)
- Salt ponds are also susceptible for use, and have been used, been used for commercial harvest and transport of brine shrimp sold in interstate commerce, under lease agreement from the Refuge (USFWS 1992)
- Salt pond types such as concentrator, bittern, and pickle ponds are interconvertible at the discretion of the operator (Van de Kamp 1986). Pond 13 is a former concentrator pond converted to bittern storage use after commercial sale of bittern was discontinued.
- Pond 13 is directly under direct federal jurisdiction through fee-title ownership by the U.S. Fish and Wildlife Service, and was authorized by Congress for purpose of a National Wildlife Refuge dedicated to interstate and international visitor use, conservation of international treaty-protected migratory birds, and endangered species (USFWS 1990)
- The tidal channel beds within the diked marsh plain that forms the bed of the pond were (and remain) lateral extensions of the traditionally navigable waterbody, San Francisco Bay.
- The existing dikes (levees) that impound concentrated San Francisco Bay waters were authorized by the revocable Department of the Army (DA) permit under the authority of the Rivers and Harbors Act.
- But for the (revocable) historic federal Department of Army (historically, War Department in some permits) authorizations to construct dams across sloughs and dikes on the banks of sloughs, the beds and banks of the salt ponds would be continuous with those of the adjacent traditionally navigable waterbody, San Francisco Bay. As you are aware, Rivers and Harbors Act jurisdiction is not extinguished by DA permits or sudden artificial changes, and the San Francisco

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District has asserted Section 10 jurisdiction at least over unfilled tidal sloughs (below the plane of former mean high water) behind dikes.

- The surface waters of San Francisco Bay would ebb and flow over the diked sloughs, banks and marsh plains but for the (revocable) historic federal Department of Army authorizations to construct dams across sloughs and dikes on the banks of slough.
- The brines that currently occupy the permanently flooded ponds are themselves impoundments of vast volumes of San Francisco Bay tidal waters that have been artificially managed to maximize evaporation, brine concentration, salt saturation, and salt crystallization, like natural salt-producing salt pans and salt ponds (Ver Planck 1958).
- The Corps has asserted Section 10 RHA and Section 404 jurisdiction over salt ponds, and explicitly over salt ponds with saturated and supersaturated brines and slough traces similar to Pond 13 (crystallizers at Napa; Corps Permit No. 400258N, 2007; crystallizers in South Bay, Corps Permit No. 19009S98) without exception since the 1980s.
- The Corps has broadly asserted "traditional" Section 10 jurisdiction (prior to 1970s precise regulatory criteria for geographic jurisdiction under Section 10) over construction of dikes on tidal slough banks (marsh banks) and dams across tidal sloughs for purposes of marsh reclamation (conversion to salt ponds and agriculture) since at least 1904.
- The Regional Water Quality Control Board (RWQCB) has documented significant hydrologic connections between Pond 13 and the traditionally navigable waterbody San Francisco Bay, due to past cracks, holes, and subsurface seepage of bittern into adjacent tidal marshes and sloughs, affecting water quality (RWQCB 1985).
- Ver Planck (1958) concluded that significant leakage occurs generally in concentrator ponds (the original condition of pond 13); the theoretical 10:1 ratio of concentrator to crystallizer pond area is in practice 15:1 because of pond leakage and rainfall inputs (Ver Planck 1958)
- Leslie Salt conceded at least one instance of direct tidal overtopping of a bittern pond levee (hydrologic input of tidal water) and backflow of "diluted" bittern to tidal waters of the Bay in December 1982 (Washburn 1985b), and other instances should be expected based on the authorized levee repair cycle.

I request that you investigate this additional large-scale occurrence of recent or new fill in South Bay salt ponds. In the spirit of Congressional intent to maintain the integrity of the Corps enforcement program in the post-*Rapanos* era (Honorable James Obserstar and Honorable Henry Waxman, letter to Assistant Secretary of the Army James Woodley, August 7, 2008)

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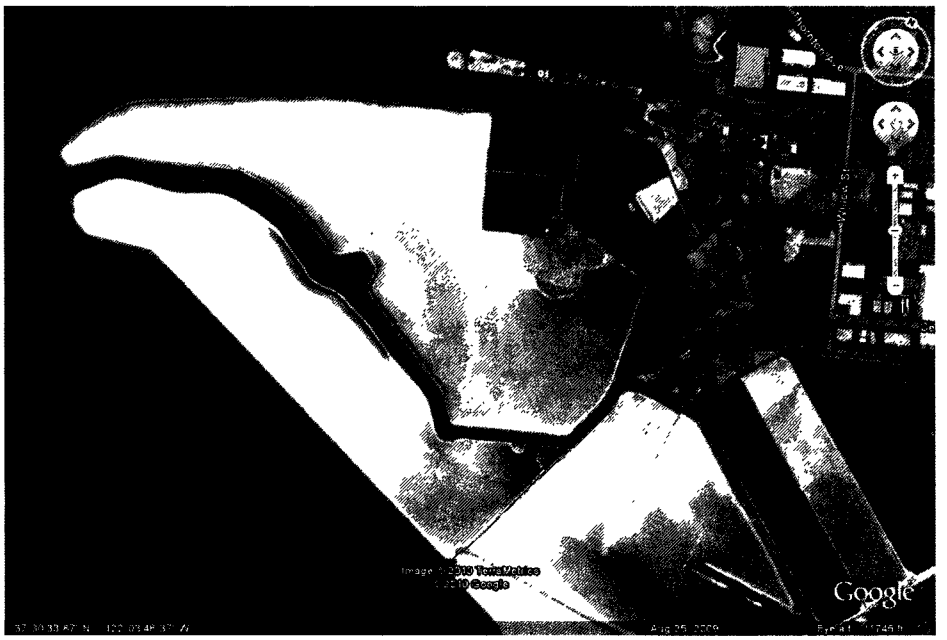

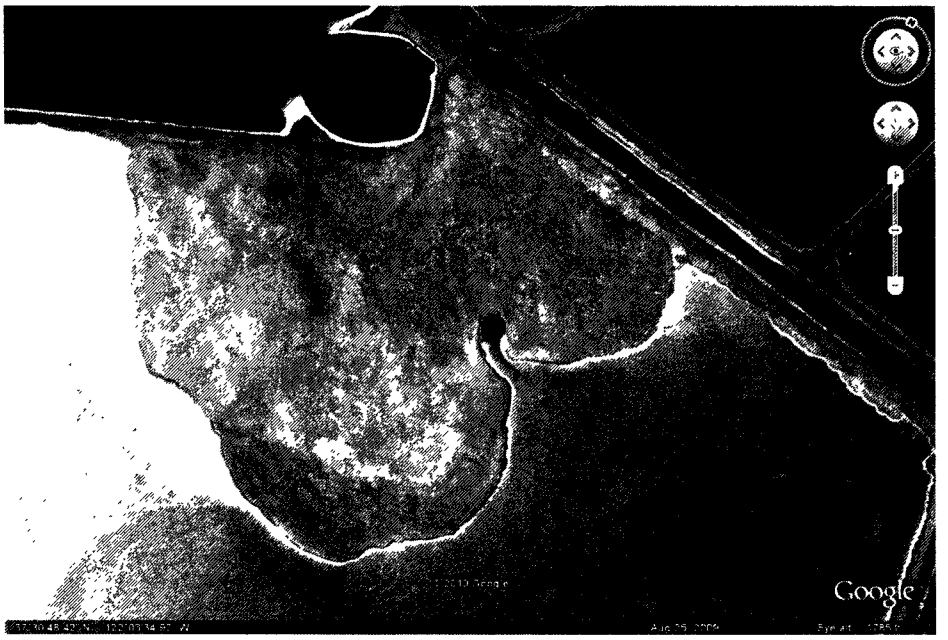

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